

# Service Manual

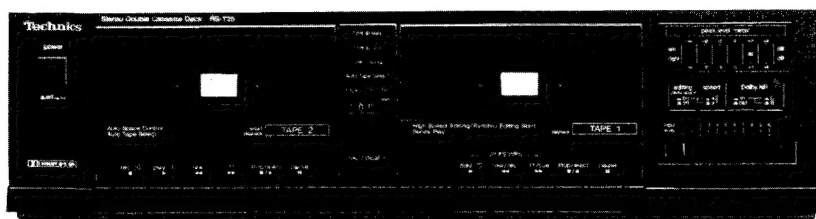
Dolby B · C NR-Equipped  
Double Cassette Deck

Cassette Deck  
**RS-T25**



**Color**  
(K)...Black Type

RS-T25



Color	Areas
(K)	[PA].....Far East PX.
(K)	[PE].....European Military.

## RS-B17W MECHANISM SERIES

## SPECIFICATIONS

### ■ CASSETTE DECK SECTION

Deck system	Stereo cassette deck
Track system	4-track, 2-channel
Heads	
(TAPE 1) PLAY	Solid Permalloy head
(TAPE 2) REC/PLAY	Solid Permalloy head
Erasing	Double-gap ferrite head
Motors	Electronically controlled DC motor
Recording system	AC bias
Bias frequency	80 kHz
Erasing system	AC erase
Tape speed	4.8 cm/sec. (1-7/8 ips)
Frequency response (w/o Dolby N.R.)	
METAL	20 Hz~16 kHz
	40 Hz~15 kHz (±3 dB)
CrO <sub>2</sub>	20 Hz~15 kHz
	40 Hz~14 kHz (±3 dB)
NORMAL	20 Hz~15 kHz
	40 Hz~14 kHz (±3 dB)
S/N	(signal level = max recording level, CrO <sub>2</sub> type tape)
Dolby C NR in	74 dB (CCIR)
Dolby B NR in	66 dB (CCIR)
NR out	56 dB (A weighted)

Wow and flutter 0.08% (WRMS)

Fast Forward and Rewind Time  
Approx. 105 seconds with C-60 cassette tape

Input sensitivity and impedance  
LINE 60 mV/47 kΩ

Output voltage and impedance  
LINE 400 mV/1.5 kΩ

### ■ GENERAL

Power consumption 18W  
Power supply Supply from amplifier  
Dimensions (W×H×D) 430 × 115 × 227 mm  
(16-15/16" × 4-17/32" × 8-15/16")  
Weight 3.4 kg

**Note:**  
Specifications are subject to change without notice.  
Weight and dimensions are approximate.

\* Dolby noise reduction manufactured under license from  
Dolby Laboratories Licensing Corporation.  
"Dolby" and the double-D symbol are trade marks of Dolby  
Laboratories Licensing Corporation.

# Technics

Matsushita Electric Trading Co., Ltd.  
P.O. Box 288, Central Osaka Japan

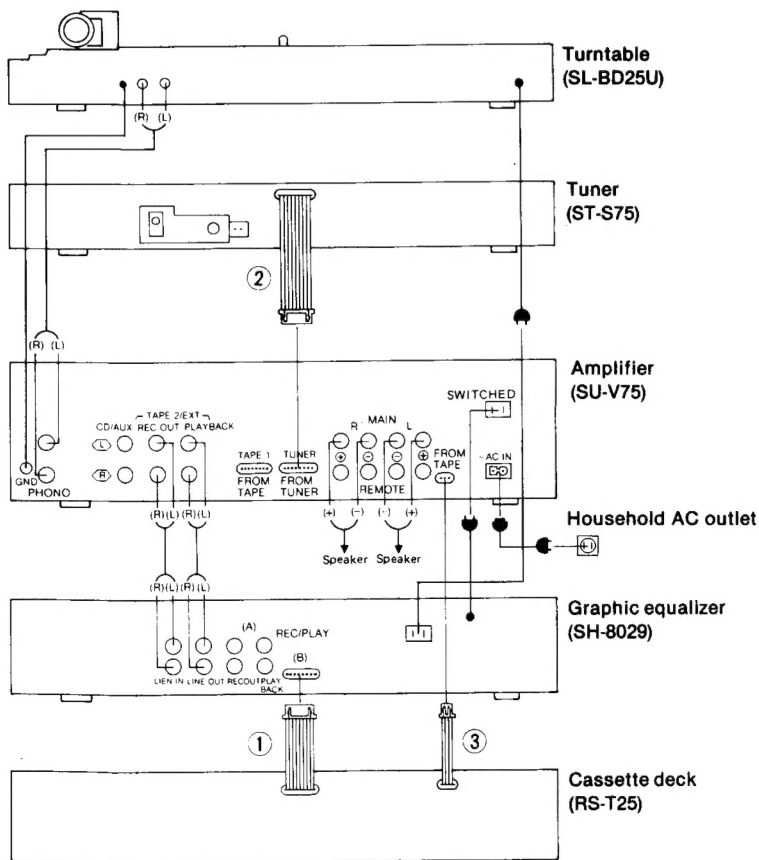
Panasonic Tokyo Office  
Matsushita Electric Trading Co., Ltd.  
6th Floor, World Trade Center Bldg.,  
No. 4-1, Hamamatsu-cho 2-Chome, Minato-ku,  
Tokyo 105, Japan

## ■ CONTENTS

	Page
• How to Connect .....	2
• Location of Controls.....	3
• Information on Power Supply Fixture .....	4
• Operation .....	5
• Disassembly Instructions .....	6
• Measurement and Adjustment Methodes.....	7~9
• Microcomputer Terminal Function and Waveform .....	9, 10

	Page
• Wiring Connection Diagram .....	11, 12
• Printed Circuit Boards .....	13~16
• Resistors and Capacitors .....	17
• Replacement Parts List.....	18
• Block Diagram.....	19, 20
• Schematic Diagram.....	21~24
• Mechanical Parts Location.....	25, 26
• Cabinet Parts Location .....	27, 28

## ■ HOW TO CONNECT



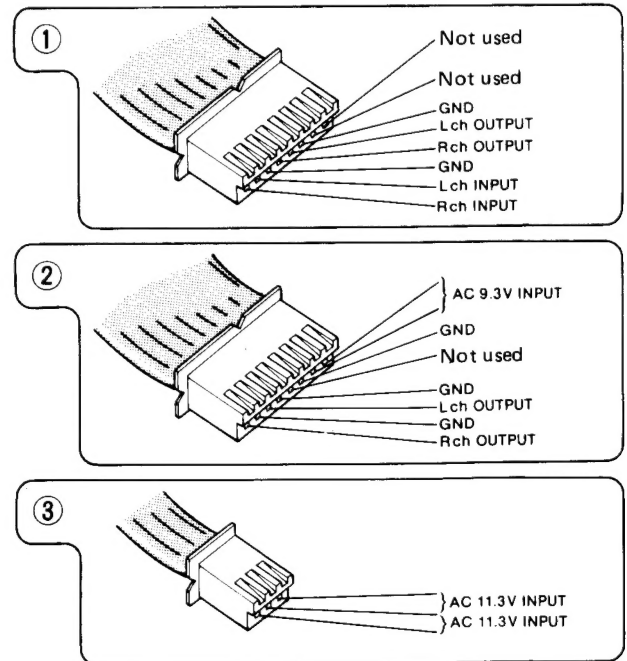
### Notes:

- When a tape deck is connected to the (A) or (B) terminals of the graphic equalizer, recordings from the graphic equalizer can be made.
- Connections cannot be made to both the (A) and the (B) terminals at the same time.

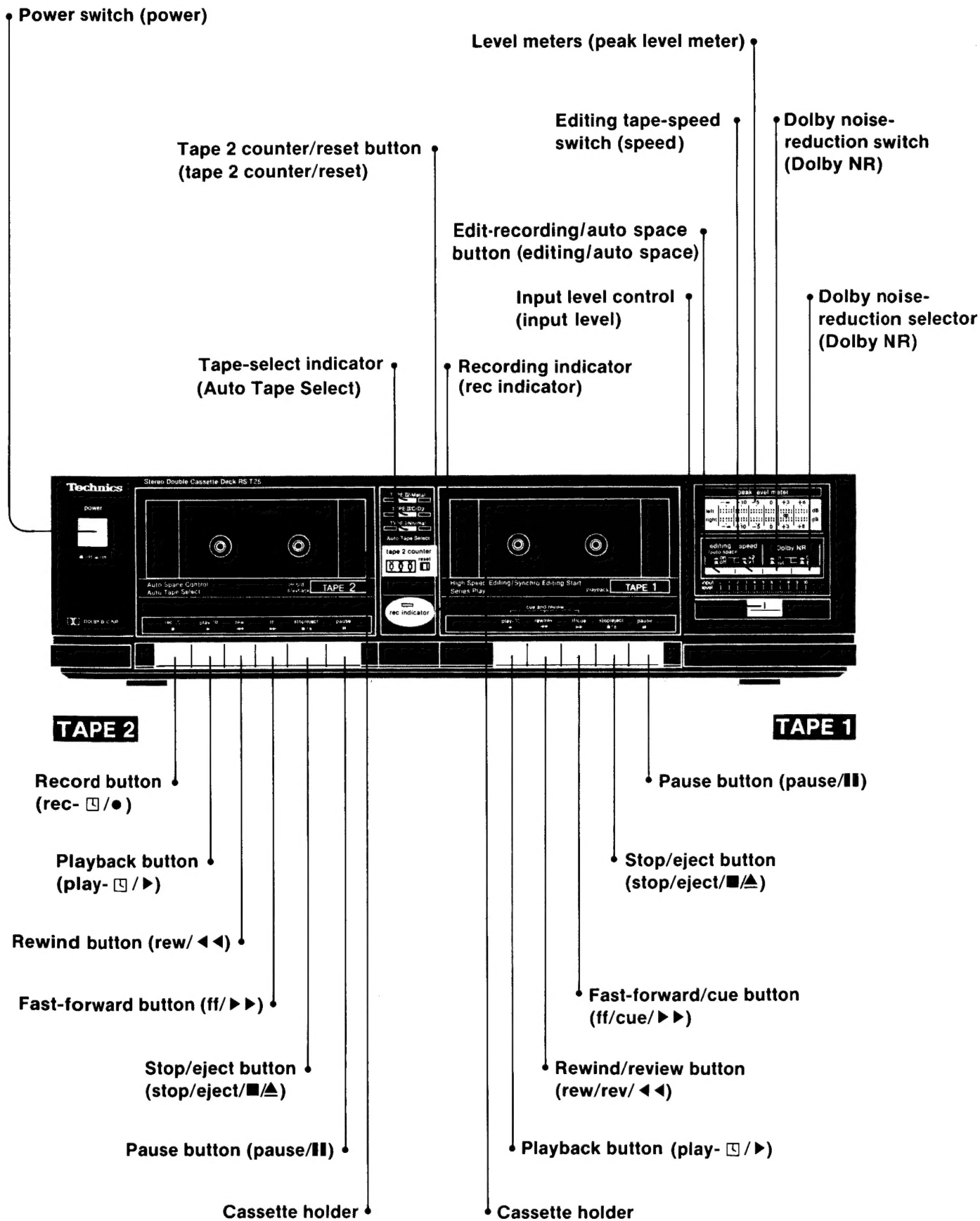
Connect the turntable, tuner, amplifier, graphic equalizer and cassette deck as shown.

If the connection is wrong, normal operation will not be attained.

\* Tuner (ST-S75) and Cassette deck (RS-T25) are not equipped with power supply. The amplifier shown or power supply fixture (SZZA1065C) is necessary for the repair and check of Tuner or Cassette deck.

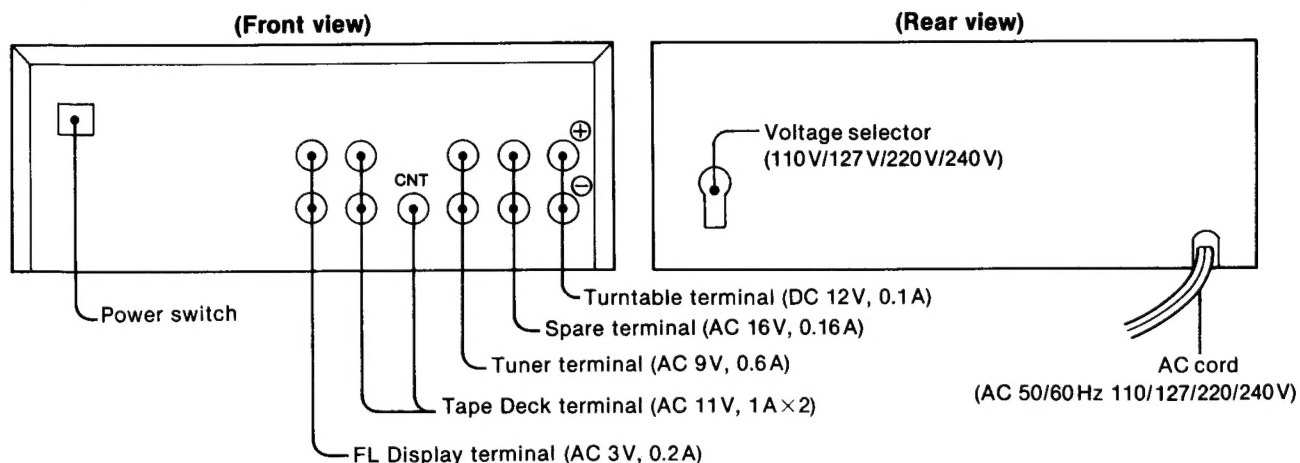


## ■ LOCATION OF CONTROLS

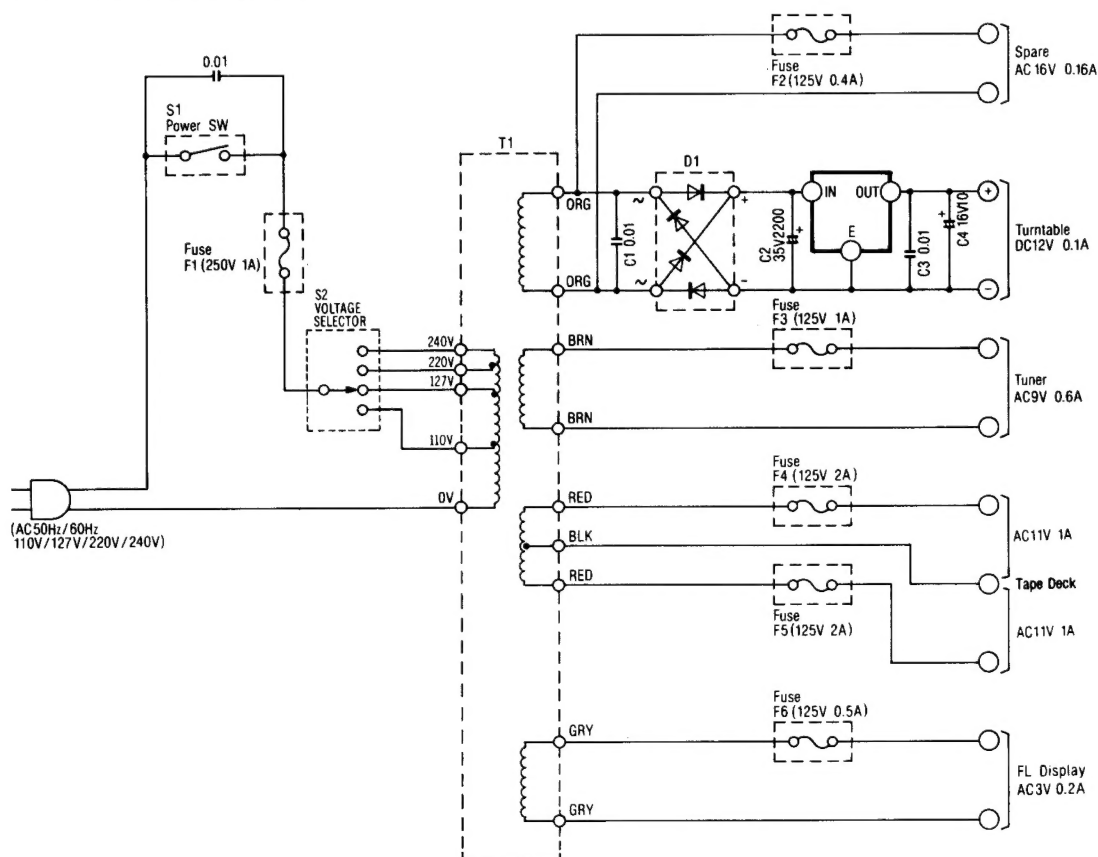


## ■ INFORMATION ON POWER SUPPLY FIXTURE (SZZA1065C)

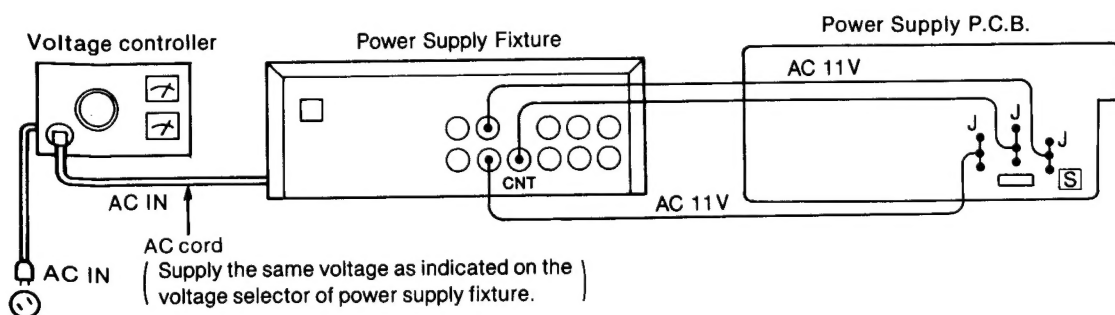
### • LOCATION



### • SCHEMATIC DIAGRAM (Reference)



### • HOW TO CONNECT



■ OPERATION

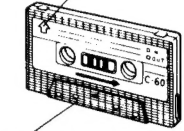
Recording

1 Turn the power of the amplifier and the graphic equalizer on, and set the input selector of the equalizer to the "source" position.

2 "on" (■→■)

3 Press then insert the tape cassette.

The side to be recorded facing outward.

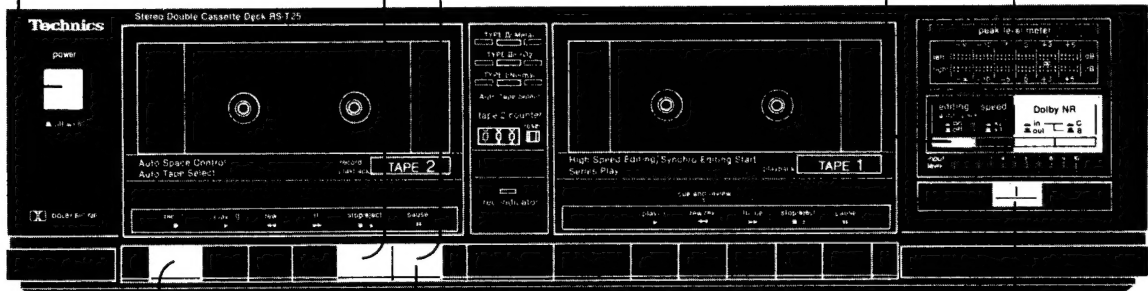


Part where tape is exposed facing downward.

4 Press.

5 "off" (■→■)

6 Select the noise-reduction system.



7 Press.  
(Recording stand-by mode)

8 Begin the program source to be recorded.

9 Adjust the recording level.  
(Refer to below.)

10 Press.  
(Recording will begin.)

To erase recorded sounds

1. Set the Dolby noise-reduction switch to the "out" position.
2. Set the input level control to the minimum (0) position.
3. Prepare in the same way as for recording, and then let the tape run.

Note that any sounds on the tape will be automatically erased if a new recording is made on that part of the tape.

To make non-recorded spaces between tunes  
With this unit, by following the steps below, it is possible to make non-recorded spaces (four seconds long) between tunes. During recording.....

- Press the edit recording/auto space button.  
(After about 4 seconds, the deck will automatically change to the recording stand-by mode. To resume the recording, set the button to the "off" position.)

Note:  
• Sounds from the deck cannot be heard while the editing/auto space button is pressed in, so set the tape-monitor switch (on the amplifier and equalizer, etc.) to the "source" position to be able to hear the sounds from the deck.

Adjustment of the recording level

The numbers which you should use as a guide for the adjustment of the tape level will differ depending upon the type of tape.

Normal Tape CrO <sub>2</sub> Tape	Metal Tape
+3 dB □□	+6 dB

■ DISASSEMBLY INSTRUCTIONS

Ref. No. 1 How to remove the cabinet

Procedure 1  
• Remove the 4 screws (①~④).

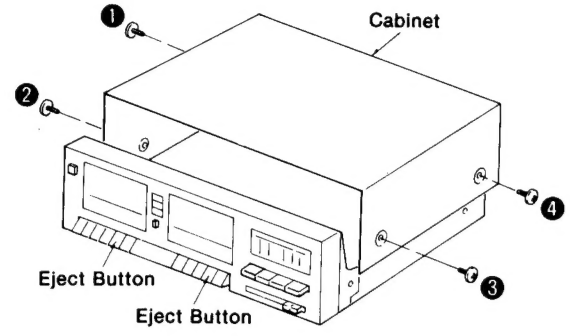


Fig. 1

Ref. No. 2 How to remove the mechanism unit

Procedure 1→2  
1. Push the eject button (see fig. 1).  
2. Remove the 6 screws (①~⑥).  
3. Remove the counter belt (for mechanism unit of tape ②).

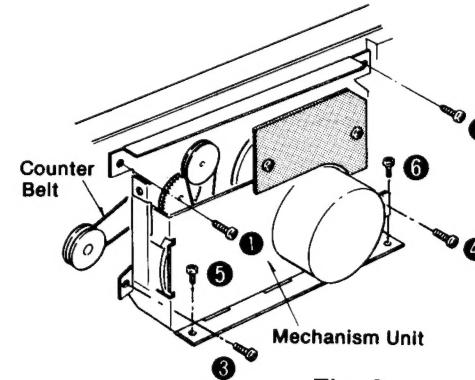


Fig. 2

Ref. No. 4 How to remove the front panel

Procedure 1→2→3→4  
• Remove the 5 screws (①~⑤).

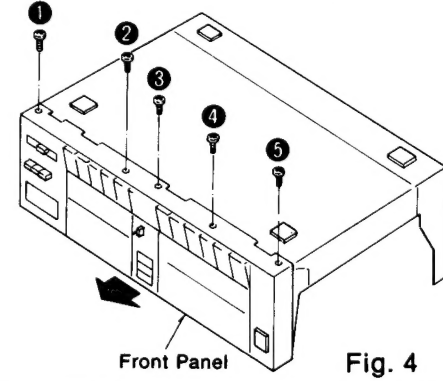


Fig. 4

Ref. No. 3 How to remove the LED meter P.C.B. and VR/SW P.C.B.

Procedure 1→3  
1. Remove the one screw (①).  
2. Push the 3 tabs aside, and then remove the LED P.C.B.  
3. Remove the 2 screws (②, ③).  
4. Push the 3 tabs aside, and then remove the VR/SW P.C.B.

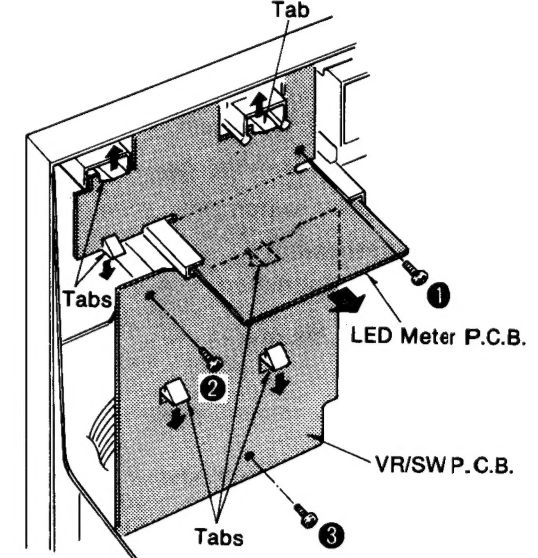


Fig. 3

Ref. No. 5 How to remove the main P.C.B.

Procedure 1→5  
1. Remove the 2 screws (①, ④).  
2. Open the sides of back chassis, and then pull down the back chassis.  
3. Push the 4 tabs aside.

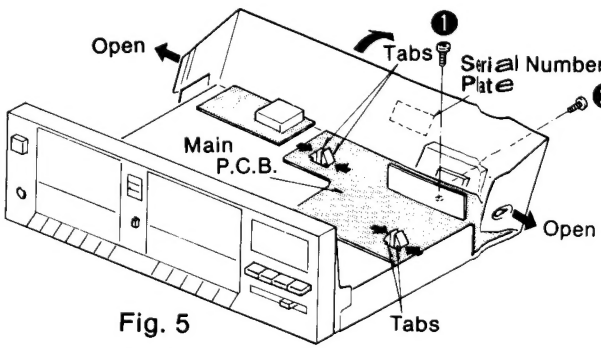


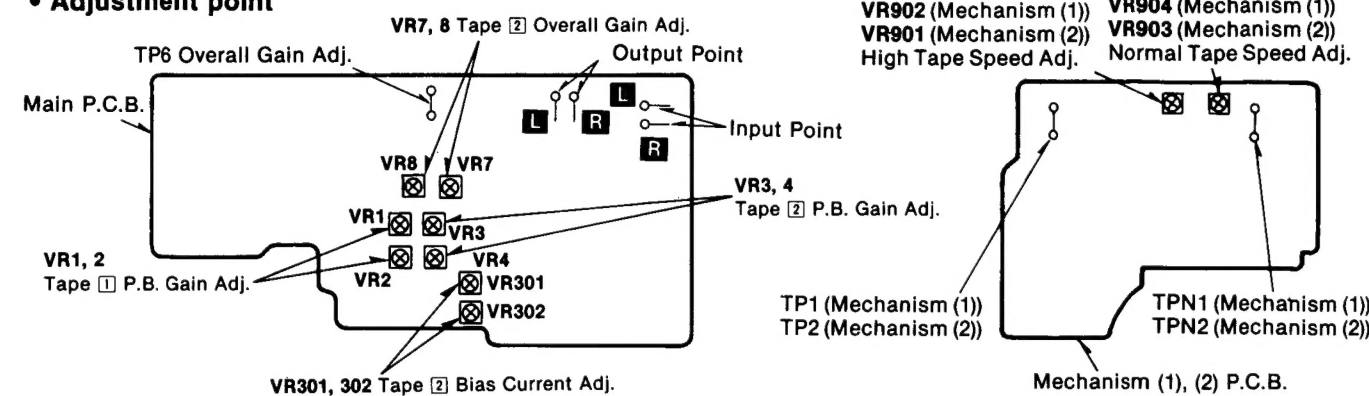
Fig. 5

\* Serial No. Indication

• The serial number plate of the product is attached to the back chassis (shown in fig. 5).

## MEASUREMENT AND ADJUSTMENT METHODES

### Adjustment point



### Measurement Condition

- Input level controls; Maximum
- Dolby NR switch; Out
- Editing switch; off
- Editing tape speed switch;  $\times 1$

### Measuring instrument

- EVM (Electronic Voltmeter)
- Oscilloscope
- Digital frequency counter
- AF oscillator

### Test tape

- Head azimuth adjustment (8kHz, -20dB); QZZCFM
- Tape speed adjustment (3kHz, -10dB); QZZCWAT
- Playback frequency response (315Hz, 12.5kHz, 10kHz, 8kHz, 4kHz, 1kHz, 250Hz, 125Hz, 63Hz, -20dB); QZZCFM
- Playback gain adjustment (315Hz, 0dB); QZZCFM
- Overall frequency response, Overall gain adjustment
- Normal reference blank tape; QZZCRA
- CrO<sub>2</sub> reference blank tape; QZZCRX
- Metal reference blank tape; QZZCRZ

### Head azimuth adjustment (TAPE 1, 2)

1. Test equipment connection is shown in Fig. 1.
2. Playback the azimuth adjusted part (8kHz, -20dB) of the test tape (QZZCFM) and regulate the angle adjusting screw so that the outputs of L-CH and R-CH are maximized. (When the adjusting positions are different with L-CH and R-CH, find a position where the outputs of L-CH and R-CH are balanced, and then make the adjustment.)
3. At the same time, obtain a lissajous waveform and eliminate phase deflection.
4. After adjustment, lock the tape guide height and angle adjustment screws.

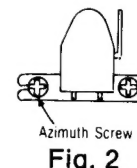


Fig. 2

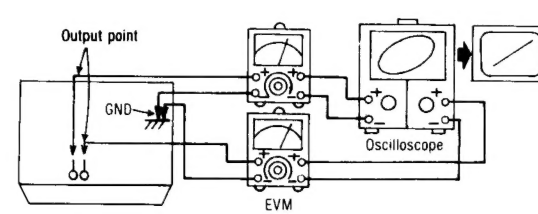


Fig. 1

### Tape speed adjustment (TAPE 1, 2)

#### Normal speed

1. Test equipment connection is shown in Fig. 3.
2. Playback the middle part of the test tape (QZZCWAT).
3. Adjust TAPE 1: VR904 and TAPE 2: VR903 so that the output is within the standard.

#### High speed

4. Set the editing speed switch to " $\times 2$ " and short the TAPE 1: TP1 and TPN1 and TAPE 2: TP2 and TPN2.
5. Playback the middle part of the test tape (QZZCWAT).
6. Adjust TAPE 1: VR902 and TAPE 2: VR901 so that the output is within the standard.

Standard value: 3000  $\pm$  20 Hz (Normal) 6000  $\pm$  40 Hz (High)

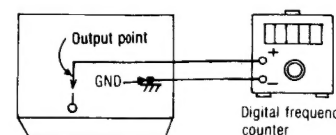


Fig. 3

### Playback frequency response (TAPE 1, 2)

1. Test equipment connection is shown in Fig. 4.
2. Playback the playback frequency response part (315Hz, 12.5kHz~63Hz, -20dB) of the test tape (QZZCFM).
3. Check that the frequency is within the range shown in Fig. 5 for both L-CH and R-CH.

Fig. 4

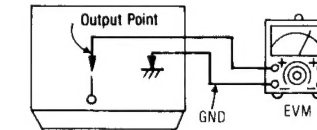
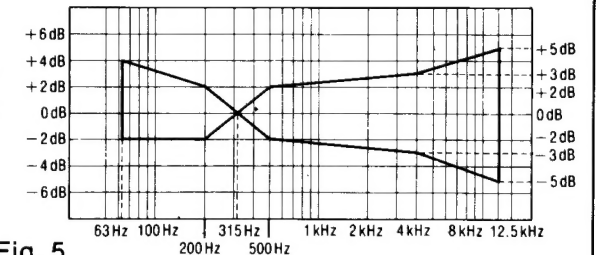


Fig. 5



### Playback gain adjustment (TAPE 1, 2)

1. Test equipment connection is shown in Fig. 4.
2. Playback the playback gain adjusted part (315Hz, 0dB) of the test tape (QZZCFM).
3. Adjust TAPE 1: VR1 (L-CH) (VR2 (R-CH)) and TAPE 2: VR3 (L-CH) (VR4 (R-CH)) so that the output is within the standard.

Standard value: 0.4  $\pm$  0.5 dB (0.02 V)

### Overall frequency response (TAPE 2)

1. Test equipment connection is shown in Fig. 6, and connect a jumper of TP6 (See page 7).
2. Set a normal blank tape (QZZCRA) and record by applying signal (50Hz, 100Hz, 200Hz, 500Hz, 1kHz, 4kHz, 8kHz and 10kHz), 20dB attenuated from the reference input level signal (1kHz, -24dB).
3. Playback the signal recorded in step 2, and check that the level of each output frequency is within the range shown in Fig. 7 in comparison with the reference frequency (1kHz).
4. If it is not within the standard range, adjust the bias current by VR301 (L-CH) (VR302 (R-CH)) so that the frequency level is within the standard.
  - Level up in high frequency range..... Increase the bias current.
  - Level down in high frequency range..... Decrease the bias current.
5. After that increase the signal recorded on CrO<sub>2</sub> blank tape (QZZCRX) and metal blank tape (QZZCRZ) up to 12.5kHz and adjust in the same way as mentioned above and check that the frequency level is within the range shown in Fig. 8.
6. After adjustment, cut a jumper of TP6.

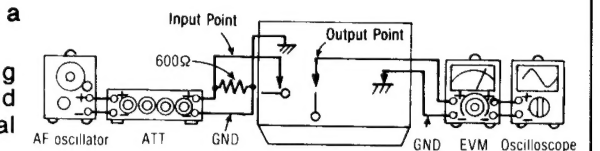


Fig. 6

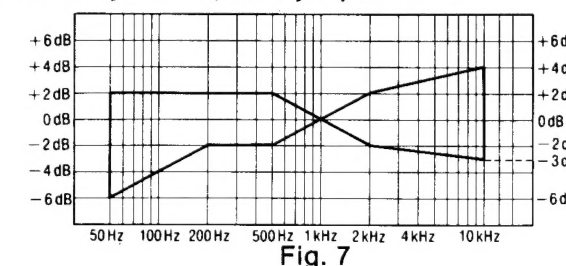


Fig. 7

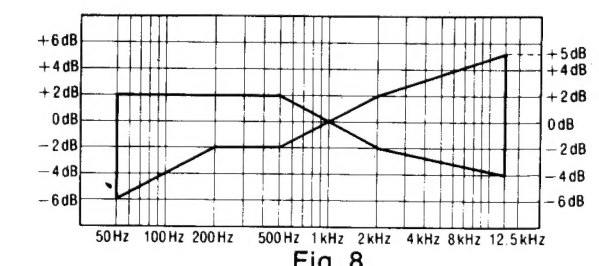


Fig. 8

### Overall gain adjustment (TAPE 2)

1. Test equipment connection is shown in Fig. 6, and connect a jumper of TP6. (See page 7.)
2. Set a normal blank tape (QZZCRA) and apply the reference input level signal (1kHz, -24dB) in record pause mode.
3. Adjust the output 0.4V by attenuator and then record.
4. Playback the signal recorded in step 3, and check that the output is within the standard.
5. If it is not within the standard, adjust VR7 (L-CH) (VR8 (R-CH)) and repeat the step (2), (3) and (4) until the output is within the standard.
6. After adjustment, cut a jumper of TP6.

Standard value: 0.4 V  $\pm$  0.1 V  
-0.08 V

### Dolby NR circuit

1. Test equipment connection is shown in Fig. 9.
2. Set a normal tape and apply 1 kHz signal in record pause mode.
3. Adjust by attenuator so that the output between terminal 7 of IC401 (L-CH) {IC402 (R-CH)} and ground is 12.3mV.

#### — Dolby B (Encode characteristic) —

4. Set NR switch to "Dolby B" and change the input signal to 1kHz, 5kHz.
5. Check that the output between terminal 21 of IC401 (L-CH) {IC402 (R-CH)} and ground change as specified from the level in NR out mode.

**Standard value:  $6 \pm 2.5$  dB (1kHz),  $8 \pm 2.5$  dB (5kHz)**

#### — Dolby C (Encode characteristic) —

6. Set NR switch to "Dolby C" and change the input signal to 1kHz, 5kHz.
7. Check that the output between terminal 21 of IC401 (L-CH) {IC402 (R-CH)} and ground change as specified from the level in NR out mode.

**Standard value:  $11.5 \pm 2.5$  dB (1kHz),  $8.5 \pm 2.5$  dB (5kHz)**

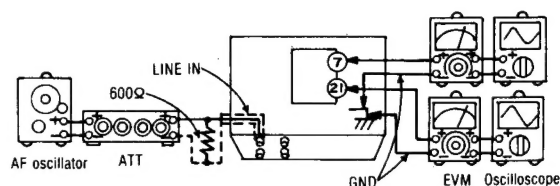
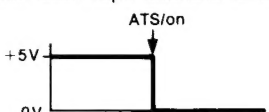
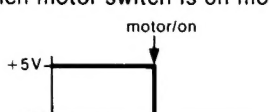
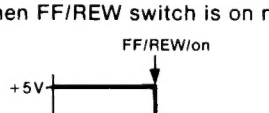
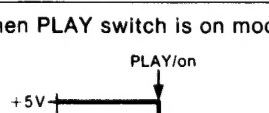
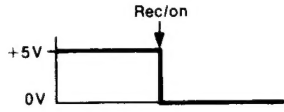
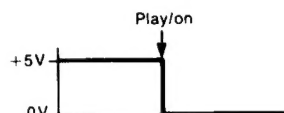
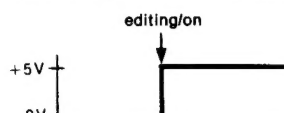
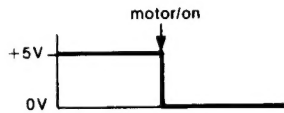
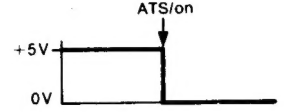


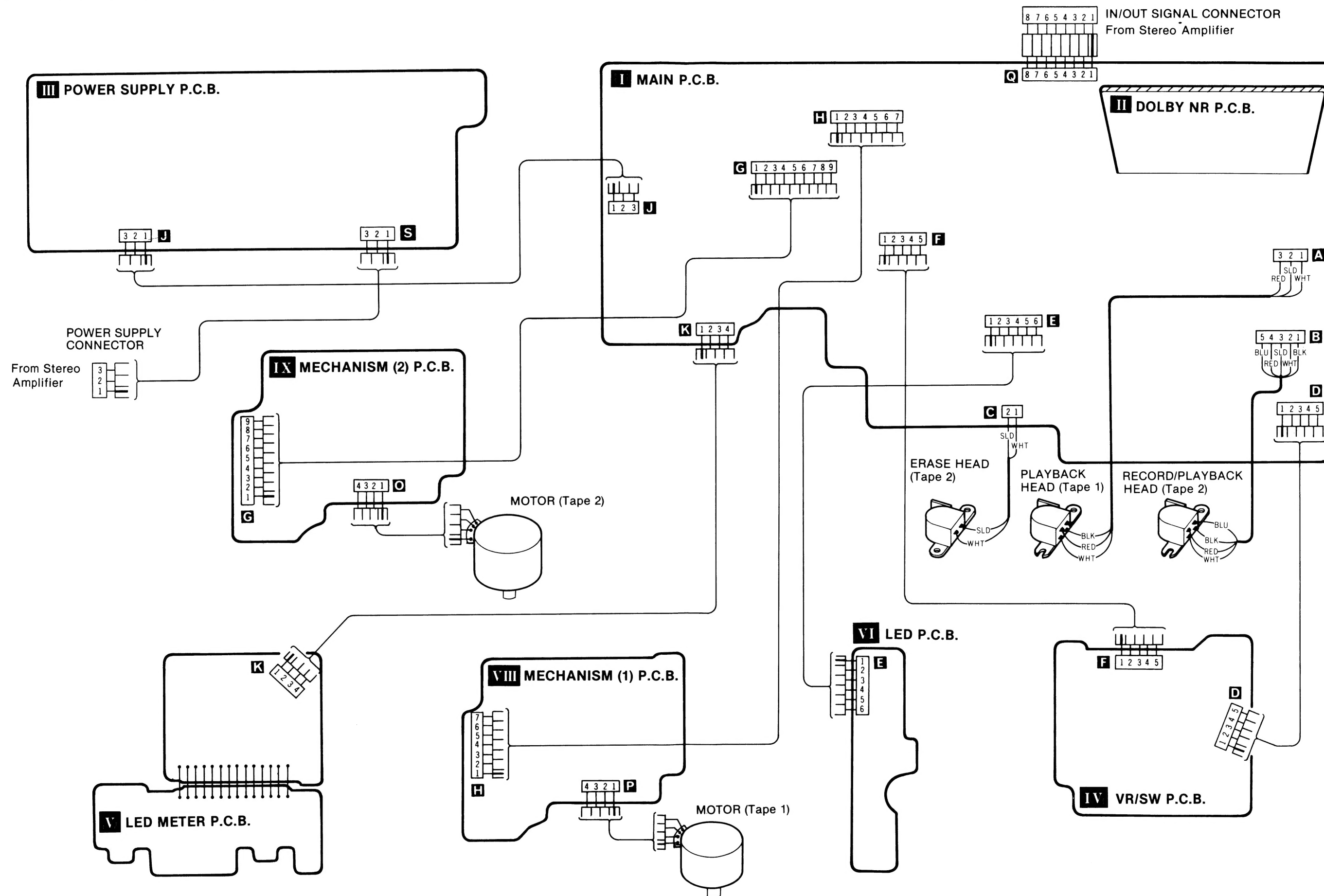
Fig. 9.

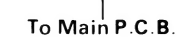
## ■ MICROCOMPUTER TERMINAL FUNCTION AND WAVEFORM (IC801: MN1402STN)

Terminal No.	Symbol	Name	Function/operation
1.	Vss	—	• Connection to GND.
2.	CO9	P.B. mute	• "H" in mute on, "L" in mute off.
3.	CO8	Auto tape selector	• "H" in 70μS mode, "L" in 120μS mode.
4.	CO7	Bias	• "H" in bias off, "L" in bias on.
5.	CO6	Direct muting	• "H" in mute off, "L" in mute on.
6.	CO5	—	• Non connection.
7.	AI3	Reading of input switch state tape □ auto tape selector (S909)	• "L" when auto tape selector is on mode. 
8.	AI2	Reading of input switch state tape □ motor (S904)	• "L" when motor switch is on mode. 
9.	AI1	Reading of input switch state tape □ FF/REW (S906)	• "L" when FF/REW switch is on mode. 
10.	AIφ	Reading of input switch state tape □ PLAY (S902)	• "L" when PLAY switch is on mode. 

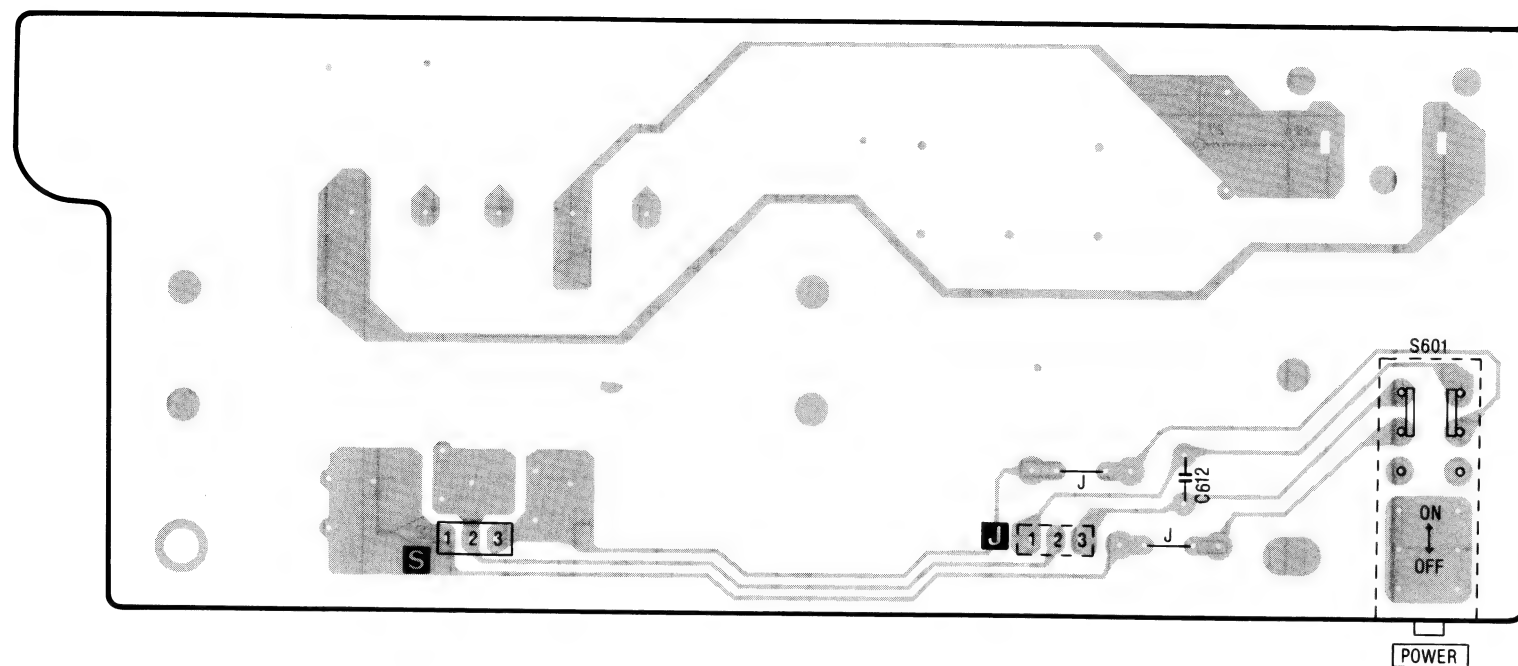
Terminal No.	Symbol	Name	Function/operation
11.	BI3	Reading of scan signal output	<ul style="list-style-type: none"> <li>• Input of Tape 2 REC switch, Tape 2 PLAY switch.</li> <li>• The above-mentioned inputs are read in accordance with DO<math>\phi</math>, DO1 scanning.</li> </ul> <p>DO<math>\phi</math> output → "L" ..... Reading of REC switch.</p>  <p>DO1 output → "L" ..... Reading of PLAY switch.</p> 
12.	BI2	Reading of input switch state editing (S802)	<ul style="list-style-type: none"> <li>• "H" when editing switch is on mode.</li> </ul> 
13.	BI1	Reading of input switch state tape 2 motor (S903)	<ul style="list-style-type: none"> <li>• "L" when motor switch is on mode.</li> </ul> 
14.	BI $\phi$	Reading of input switch state tape 2 auto tape selector (S907)	<ul style="list-style-type: none"> <li>• "L" when auto tape selector is on mode.</li> </ul> 
15.	EO $\phi$	Head selector	• "H" in tape 1 Head, "L" in tape 2 Head.
16.	EO1	Tape speed selector	• "H" in high speed, "L" in normal speed.
17.	EO2	Dolby NR IN/OUT	• "H" in REC mode, "L" in PLAY mode.
18.	EO3	Dolby B/C NR selector	• "H" in PLAY mode, "L" in REC mode.
19.	RST	Reset terminal	<ul style="list-style-type: none"> <li>• Used to reset the microcomputer when power is thrown in.</li> <li>• Reset at "L".</li> </ul>
20.	TEST	—	• Connection to GND.
21.	DO3	Motor 2	• "H" in motor 2 off, "L" in motor 2 on.
22.	DO2	Motor 1	• "H" in motor 1 off, "L" in motor 1 on.
23.	DO1	SCAN 2	• Scan signal for reading of tape 2 PLAY switch input.
24.	DO $\phi$	SCAN 1	• Scan signal for reading of REC switch input.
25.	SNS $\phi$	Remote control signal input	• Input of serial signal from remote control jack.
26.	SNS1	Reading of input switch state tape speed (S802)	• "H" when tape speed switch is $\times 2$ mode.

## ■ WIRING CONNECTION DIAGRAM

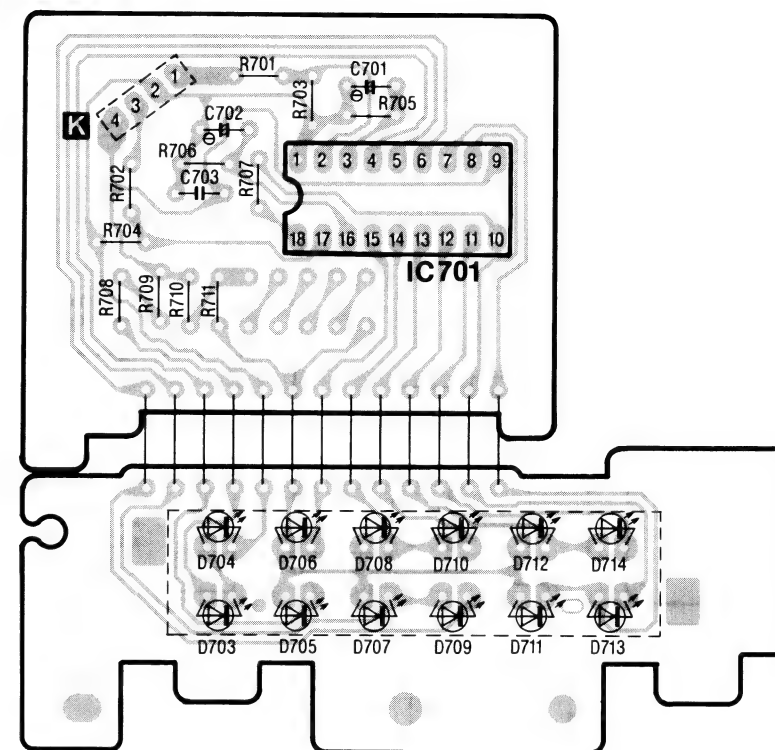


**MAIN P.C.B.**

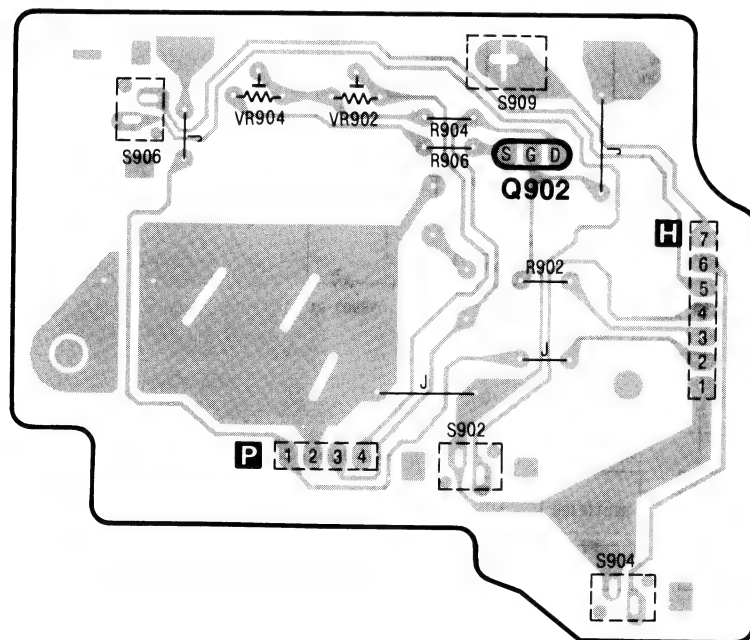
### III POWER SUPPLY P.C.B.



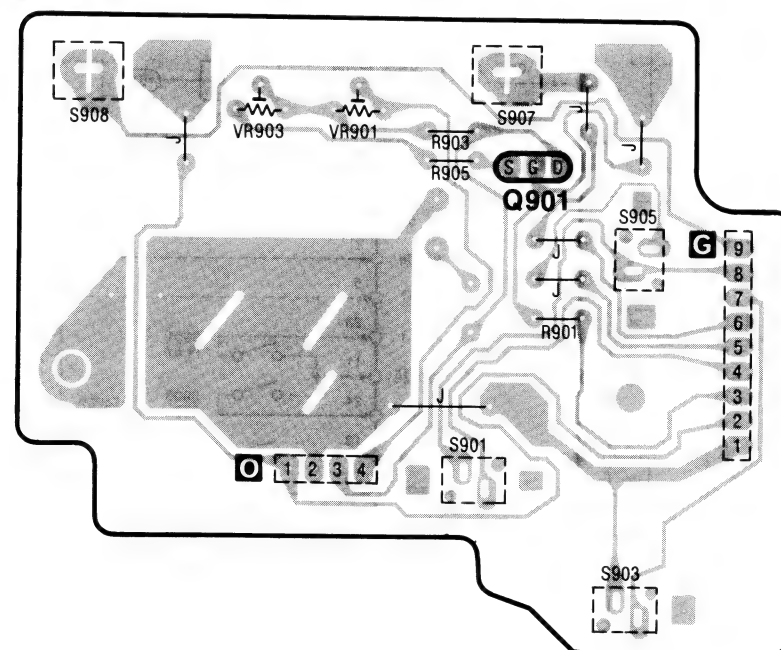
### V LED METER P.C.B.



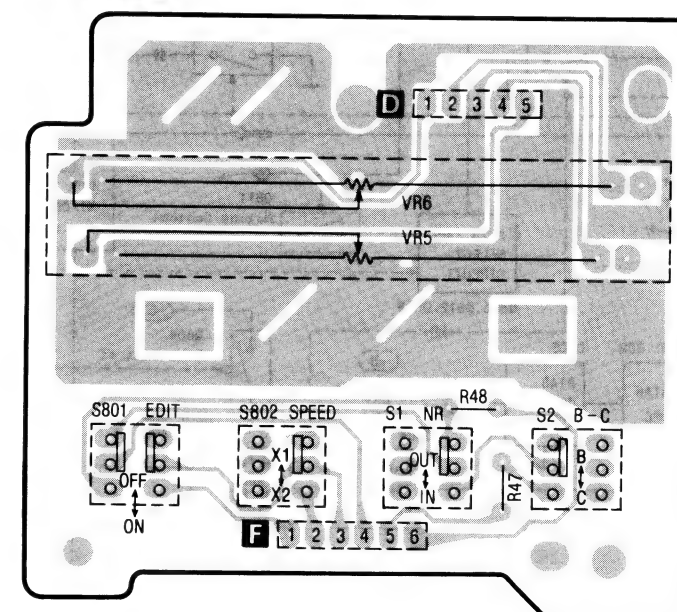
### VIII MECHANISM (1) P.C.B.



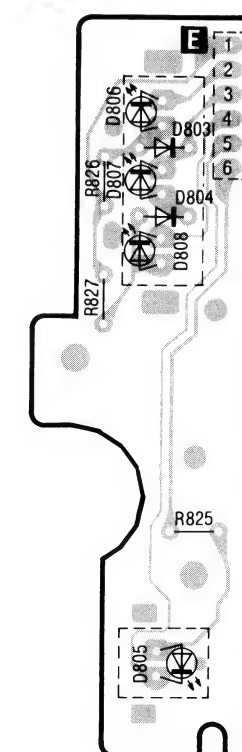
### IX MECHANISM (2) P.C.B.



### IV VR/SW P.C.B.



### VI LED P.C.B.



## RESISTOR

Notes: • Part number  
Please use

## Numbering System

Resistor Type	
ERD	: Carbon
ERG	: Metal Oxide
ERC	: Solid

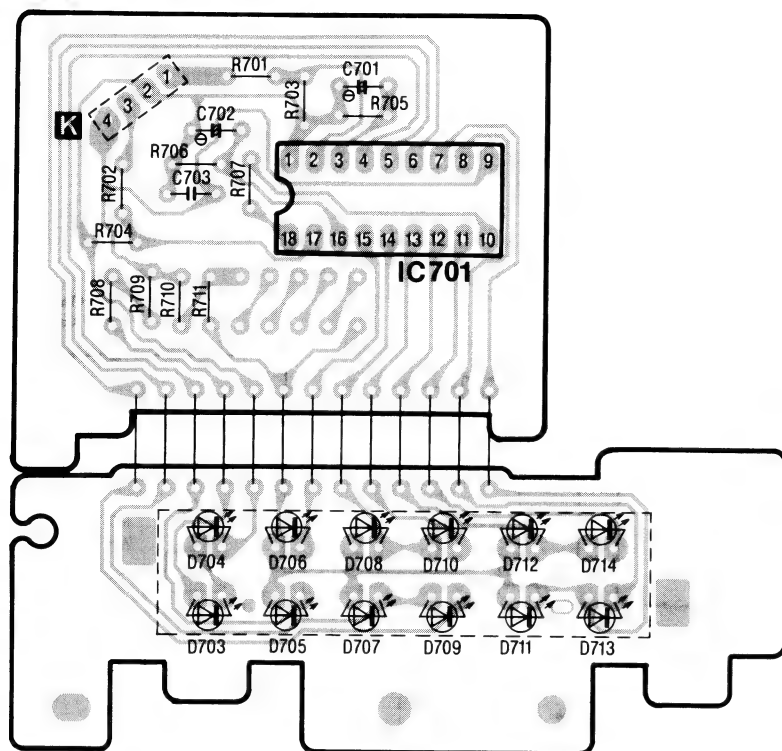
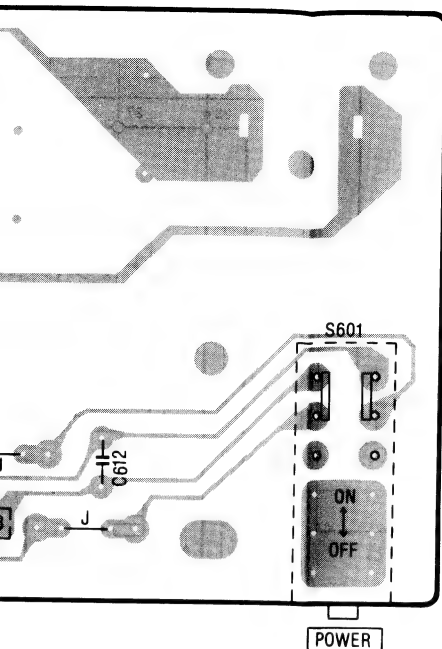
## RESISTORS

Ref. No.	Part
R3, 4	ERDS
R5, 6	ERDS
R7, 8	ERDS
R9, 10	ERDS
R11, 12	ERDS
R13, 14	ERDS
R15, 16	ERDS
R17, 18	ERDS
R19, 20	ERDS
R21, 22	ERDS
R23, 24	ERDS
R25, 26	ERDS
R27, 28	ERDS
R29, 30	ERDS
R31, 32	ERDS
R33, 34	ERDS
R35, 36	ERDS
R37, 38	ERDS
R43, 44	ERDS
R45, 46	ERDS
R47, 48	ERDS
R53, 54	ERDS
R55, 56	ERDS

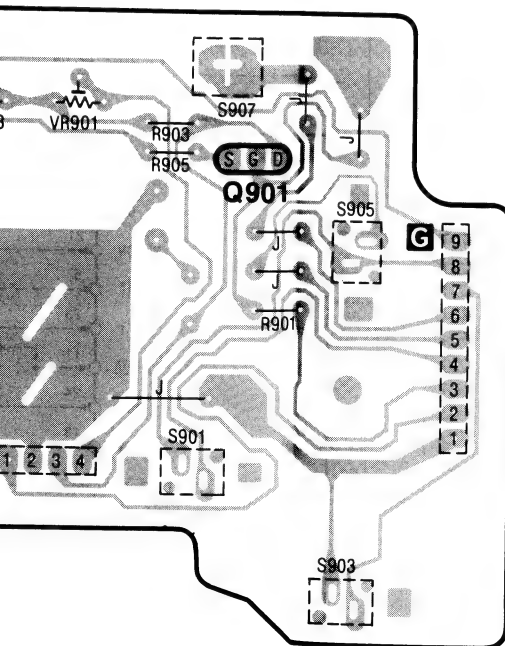
## CAPACITORS

Ref. No.	Part
C1, 2	ECKD
C3, 4	ECKD
C5, 6	ECEA
C7, 8	ECQB
C11, 12	ECEA
C13, 14	ECEA
C15, 16	ECKD
C17, 18	RCBS
C19, 20	ECEA
C21, 22	RCBS
C23, 24	ECEA
C25, 26	ECQB
C27, 28	ECQB
C29	ECQB
C30, 31	ECFTD
C32	ECQB
C35, 36	ECFTD

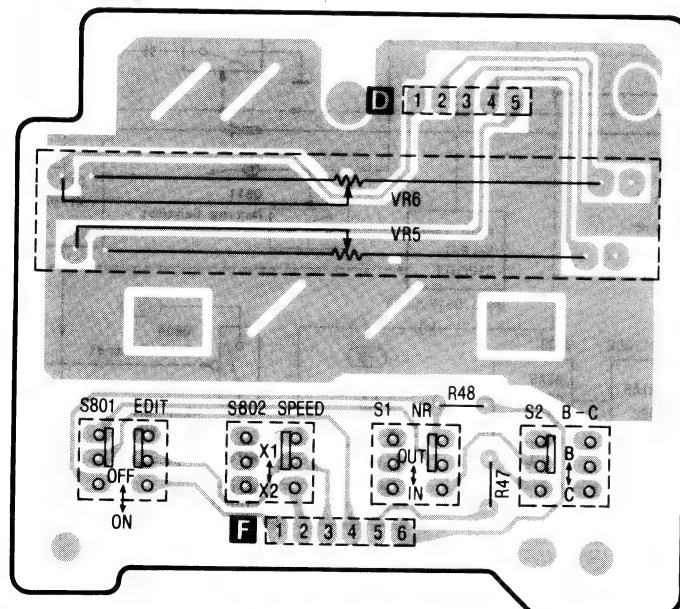
V LED METER P.C.B.



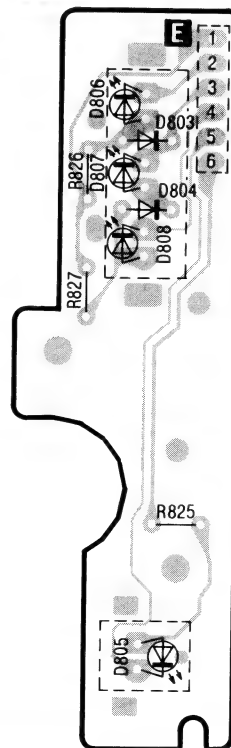
M (2) P.C.B.



IV VR/SW P.C.B.



VI LED P.C.B.



RESISTORS AND CAPACITORS

- Notes: • Part numbers are indicated on most mechanical parts. Please use this part number for parts order.
- The unit of resistance is OHM ( $\Omega$ ).  
K=1000 $\Omega$ , M=1000k $\Omega$
  - The unit of capacitance is MICROFARAD ( $\mu$ F).  
P=10 $\mu$ F.

Numbering System of Resistor

Resistor Type	Wattage	Tolerance
ERD : Carbon	10 : 1/8W	J : $\pm 5\%$
ERG : Metal Oxide	25 : 1/4W	G : $\pm 2\%$
ERC : Solid	2F : 1/4W	K : $\pm 10\%$
	S2 : 1/4W	
	S1 : 1/2W	
	12 : 1/2W	

Numbering System of Capacitor

Capacitor Type	Voltage		Tolerance
	ECEA Type	Other	
ECEA...N : Non-polar Electrolytic	2R3 : 2.3V DC	05 : 50V DC	C : $\pm 0.25\mu$ F
ECEA : Electrolytic	DC	1H : 50V DC	J : $\pm 5\%$
ECCD : Ceramic	OJ : 6.3V	1 : 125V DC	K : $\pm 10\%$
ECKD : Ceramic	1C : 16V	2H : 500V DC	Z : $\pm 80\%, -20\%$
ECQM : Polyester	1E : 25V	KC : 400V AC	M : $\pm 20\%$
ECQV : Polyester	1V : 35V		
ECQP : Polyester	1H : 50V		
ECKF : Ceramic	50 : 50V		
	25 : 25V		
	2A : 100V		

RESISTORS

Ref. No.	Part No.	Value	Ref. No.	Part No.	Value	Ref. No.	Part No.	Value	Ref. No.	Part No.	Value
R3, 4	ERDS2TJ101	100	R63, 64	ERDS2TJ103	10K	R421, 422	ERDS2TJ823	82K	R809	ERDS2TJ392	3.9K
R5, 6	ERDS2TJ820	82	R65, 66	ERDS2TJ101	100	R423, 424	ERDS2TJ331	330	R810	ERDS2TJ683	68K
R7, 8	ERDS2TJ392	3.9K	R67, 68	ERDS2TJ562	5.6K	R425, 426	ERDS2TJ101	100	R811	ERDS2TJ222	2.2K
R9, 10	ERDS2TJ272	2.7K	R69	ERDS2TJ103	10K	R427, 428	ERDS2TJ684	680K	R812	ERDS2TJ562	5.6K
R11, 12	ERDS2TJ122	1.2K	R71, 72	ERDS2TJ104	100K				R815	ERDS2TJ183	18K
R13, 14	ERDS2TJ332	3.3K	R301	ERDS2TJ1R0	1	R429, 430	ERDS2TJ684	680K	R816	ERDS2TJ103	10K
R15, 16	ERDS2TJ274	270K	R302, 303	ERDS2TJ683	68K	R431, 432	ERDS2TJ562	5.6K	R817	ERDS2TJ123	12K
R17, 18	ERDS2TJ103	10K				R601, 602	ERDS2TJ100	10	R818, 819	ERDS2TJ102	1K
R19, 20	ERDS2TJ153	15K	R304, 305	ERDS2TJ100	10	R603, 604	ERDS2TJ102	1K	R820	ERDS2TJ473	47K
R21, 22	ERDS2TJ472	4.7K	R306	ERDS2TJ561	560	R605, 606	ERDS2TJ470	47	R821	ERDS2TJ152	1.5K
			R307	ERDS2TJ183	18K	R607	ERDS2TJ102	1K	R822	ERDS2TJ473	47K
R23, 24	ERDS2TJ102	1K	R308	ERDS2TJ561	560	R608	ERDS2TJ560	56			
R25, 26	ERDS2TJ330	33	R310	ERDS2TJ331	330	R701, 702	ERDS2TJ363	36K			
R27, 28	ERDS2TJ182	1.8K	R311	ERDS2TJ220	22	R703, 704	ERDS2TJ472	4.7K	R823	ERDS2TJ152	1.5K
R29, 30	ERDS2TJ472	4.7K	R401, 402	ERDS2TJ242	2.4K	R705, 706	ERDS2TJ154	150K	R824	ERDS2TJ223	22K
R31, 32	ERDS2TJ103	10K	R403, 404	ERDS2TJ562	5.6K				R825	ERDS2TJ102	1K
R33, 34	ERDS2TJ273	27K	R405, 406	ERDS2TJ332	3.3K	R707	ERDS2TJ562	5.6K	R826, 827	ERDS2TJ391	390
R35, 36	ERDS2TJ152	1.5K	R407, 408	ERDS2TJ102	1K	R708, 709	ERDS2TJ221	220	R828, 829	ERDS2TJ103	10K
R37, 38	ERDS2TJ682	6.8K				R710, 711	ERDS2TJ330	33	R830, 831	ERDS2TJ102	1K
R43, 44	ERDS2TJ182	1.8K	R409, 410	ERDS2TJ333	33K	R801	ERDS2TJ103	10K	R836	ERDS2TJ103	10K
R45, 46	ERDS2TJ330	33	R411, 412	ERDS2TJ823	82K	R802	ERDS2TJ332	3.3K	R837	ERDS2TJ224	220K
			R413, 414	ERDS2TJ471	470	R803	ERDS2TJ272	2.7K	R901, 902	ERDS2TJ104	100K
R47, 48	ERDS2TJ223	22K	R415, 416	ERDS2TJ512	5.1K	R804	ERDS2TJ563	56K	R903, 904	ERDS2TJ223	22K
R53, 54	ERDS2TJ103	10K	R417, 418	ERDS2TJ683	68K	R805, 806	ERDS2TJ103	10K			
R55, 56	ERDS2TJ223	22K	R419, 420	ERDS2TJ222	2.2K	R808	ERDS2TJ332	3.3K	R905, 906	ERDS2TJ103	10K

CAPACITORS

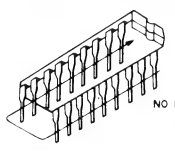
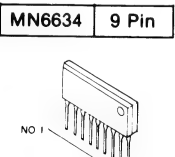
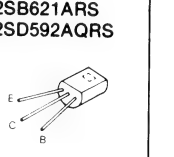
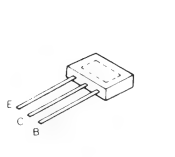
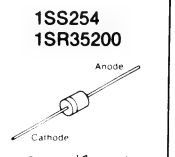
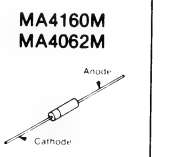
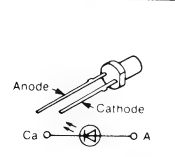
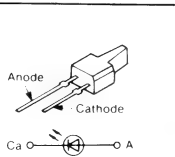
Ref. No.	Part No.	Value	Ref. No.	Part No.	Value	Ref. No.	Part No.	Value	Ref. No.	Part No.	Value
C1, 2	ECKD1H271KB	270P	C37, 38	ECEA1CU100	10	C310	ECKD1H473ZF	0.047	C804	ECEA1AU471	470
C3, 4	ECKD1H391KB	390P	C39, 40	ECEA1HU2R2	2.2	C401, 402	ECCD1H820K	82P	C805	ECEA1CU102	1000
C5, 6	ECEA0JU101	100	C41	ECKD1H473ZF	0.047	C403, 404	ECQB1H472JZ	0.0047	C806	ECEA1CU471	470
C7, 8	ECQB1H123JZ	0.012				C405, 406	ECEA1CU100	10	C807	ECEA1CU102	1000
C11, 12	ECEA1EU4R7	4.7	C42	ECEA1HU2R2	2.2	C407, 408	ECQV1H473JZ	0.047	C808	ECEA0JU222	2200
C13, 14	ECEA1HU010	1	C44, 45	ECKD1H223ZF	0.022	C409, 410	ECQV1H224JZ	0.22	C809	ECKD1H223ZF	0.022
C15, 16	ECKD2H101KB	100P	C46	ECEA1CU100	10	C411, 412	ECEA50MR68R	0.68	C610	ECEA1AU471	470
C17, 18	RCBS1H561KBY	560P	C47, 48	ECKD1H681KB	680P				C611	ECEA1AU221	220
C19, 20	ECEA1HU010	1	C49, 50	ECEA1EU4R7	4.7	C413, 414	ECQB1H103JZ	0.01	C612	ECKD2H682PE	0.0068
C21, 22	RCBS1H181KBY	180P	C301, 302	ECCD1H221K	220P	C415, 416	ECQB1H472JZ	0.0047	C613	ECKD1H223ZF	0.022
			C303	ECQP1H83JZ	0.018	C417, 418	ECEA1CU100	10			
C23, 24	ECEA1HU010	1	C304	ECEA1CU470	47	C419, 420	ECQV1H473JZ	0.047	C701, 702	ECEA1HU2R2	2.2
C25, 26	ECQB1H102JZ	0.001	C305	ECKD1H392KB	0.0039	C421, 422	ECQV1H224JZ	0.22	C703	ECKD1H223ZF	0.022
C27, 28	ECQB1H223JZ	0.022	C306	ECFTD222KVY	0.0022	C423, 424	ECEA50MR68R	0.68	C801	ECEA1HU2R2	2.2
C29	ECQB1H123JZ	0.012				C425, 426	ECKD1H152KB	0.0015	C802	ECCD1H101K	100P
C30, 31	ECFTD333KXY	0.033	C307	ECFTD682KVY	0.0068	C427, 428	ECKD1H122KB	0.0012	C803	ECEA1EU4R7	4.7
C32	ECQB1H123JZ	0.012	C308	ECFTD222KVY	0.0022	C601, 602	ECKD1H223ZF	0.022	C804	ECEA1AU221	220
C35, 36	ECFTD153KXY	0.015	C309	ECKD1H223ZF	0.022	C603	ECEA1AU221	220	C805	ECEA1HUR47	0.47

REPLACEMENT PARTS LIST

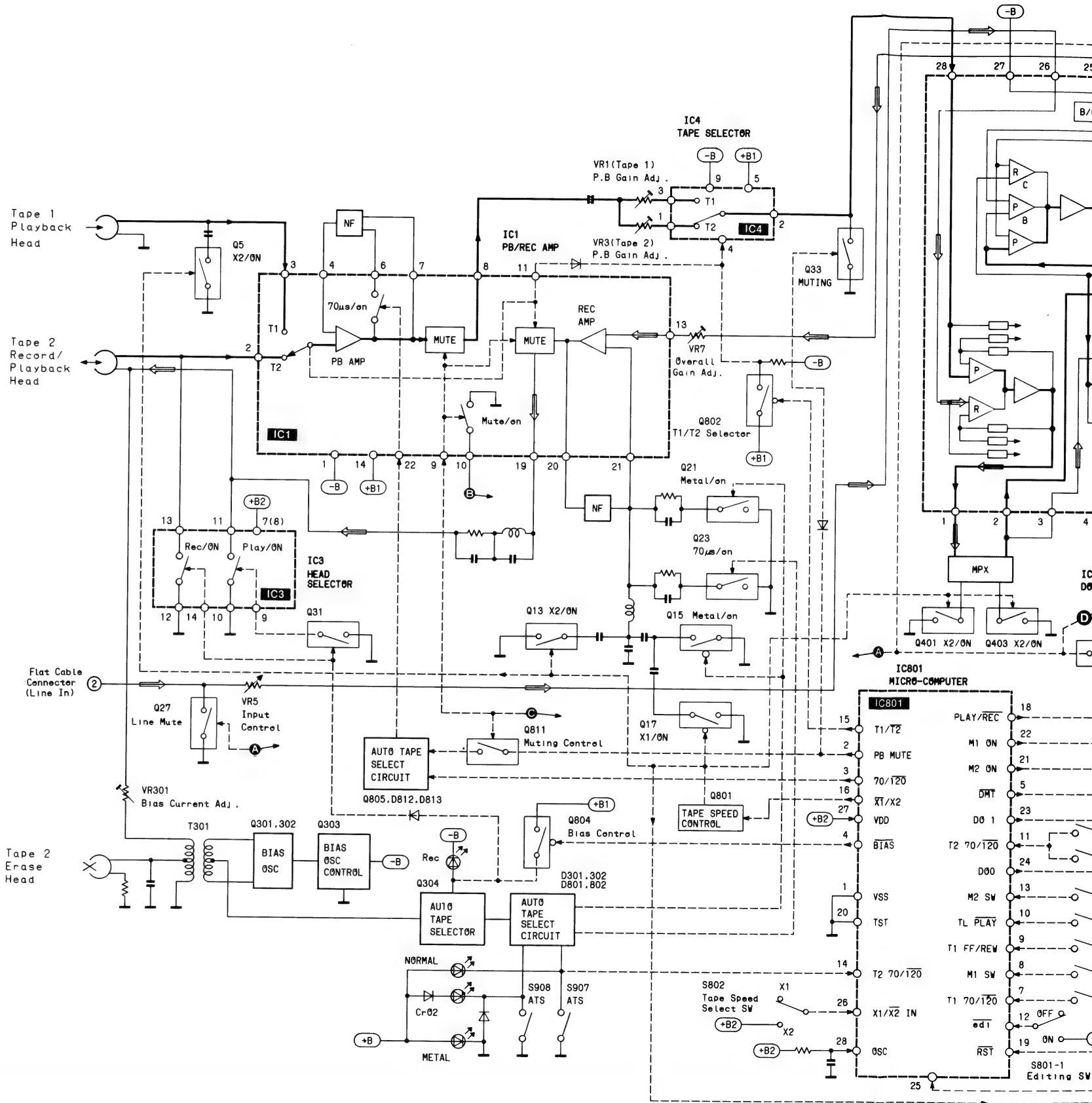
Notes: • Part numbers are indicated on most mechanical parts.  
Please use this part number for parts order.

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
INTEGRATED CIRCUITS			D602~607	1SR35200	Diode
IC1	AN7014K	Integrated Circuit	D608	MA4062-M	Diode
IC3	UPC1290C	Integrated Circuit	D703~708	LN463YCPPU	L.E.D.
IC4	MN6634	Integrated Circuit	D709~714	LN863RCPP	L.E.D.
IC401, 402	TEA0665	Integrated Circuit	D805, 806	LN846RP	L.E.D.
IC701	AN6888	Integrated Circuit	D807	LN346GP	L.E.D.
IC801	MN1402STN	Integrated Circuit	D808	LN446YP	L.E.D.
TRANSISTORS			COILS		
Q5, 6, 33, 34	2SD1450R	Transistor	L1, 2	SLQX303-1K	Choke
Q7, 8, 29, 30	2SJ40D	Transistor	L3, 4	QLQX2722D	Choke
Q15~18, 806	2SA1309Q	Transistor	L401, 402	QLM9210K	MPX Coil
Q13, 14, 21~24, 301, 302, 811	2SC3311-Q	Transistor	L403, 404	ELM7Q306A	Skewing Network Coil
Q27, 28	2SA1253-S	Transistor	TRANSFORMERS		
Q31	UN4213	Transistor	T301	SL09C19-K	Bias OSC
Q303	2SB1030Q	Transistor	VARIABLE RESISTORS		
Q304, 601, 807, 808	2SD592ANC-Q	Transistor	VR1~4	EVND4AA00B24	Tape 1/Tape 2 P.B. Gain Adj.
Q401~404	2SC3311-Q	Transistor	VR5, 6	EWAPB1X05A54	Input Volume
Q602	2SB621A-R	Transistor	VR7, 8	EVND4AA00B14	Overall Gain Adj.
Q603	2SD1423Q	Transistor	VR301, 302	EVND4AA00B15	Bias Current Adj.
Q801~803, 805	UN4113	Transistor	VR901~904	EVND1AA00B14	Tape Speed Adj.
Q804	UN4116	Transistor	COMBINATION PART		
Q809, 810	UN4114	Transistor	Z801	EXBF7E562J	5.6kΩ×6
Q901, 902	2SK381D	Transistor	SWITCHES		
DIODES			S1, 2, 801, 802	SSH4101	NR Dubbing Switch
D5~10, 13, 301, 302, 801~804, 809~814, 819~822	1SS254	Diode	S601	SSH1069	Power Switch
D601	MA4160M	Diode	S901~906	SSP83	Leaf Switch
			S907~909	LSA-1150AU	Leaf Switch

Terminal Guide of Transistors, Diodes and IC's

 14 Pin	 9 Pin	 3 Pin	 3 Pin
μPC1290C AN6888 TEA0665 MN1402STN AN7014K	MN6634	2SB621ARS 2SD592AQRS	2SA1309AQS 2SB1030QRS 2SC3311AQS 2SD1423QRS 2SD1450R UN4113 UN4114 UN4116, UN4213
 1SS254 1SR35200	 MA4160M MA4062M	 LN463YCPP (YEL) LN863RCPP (RED)	 LN846RP (RED) LN346GP (GRN) LN446YP (YEL)

BLOCK DIAGRAM



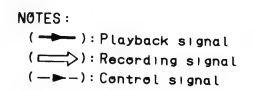
9AQS  
0QRS  
1AQS  
2QRS  
3R

---

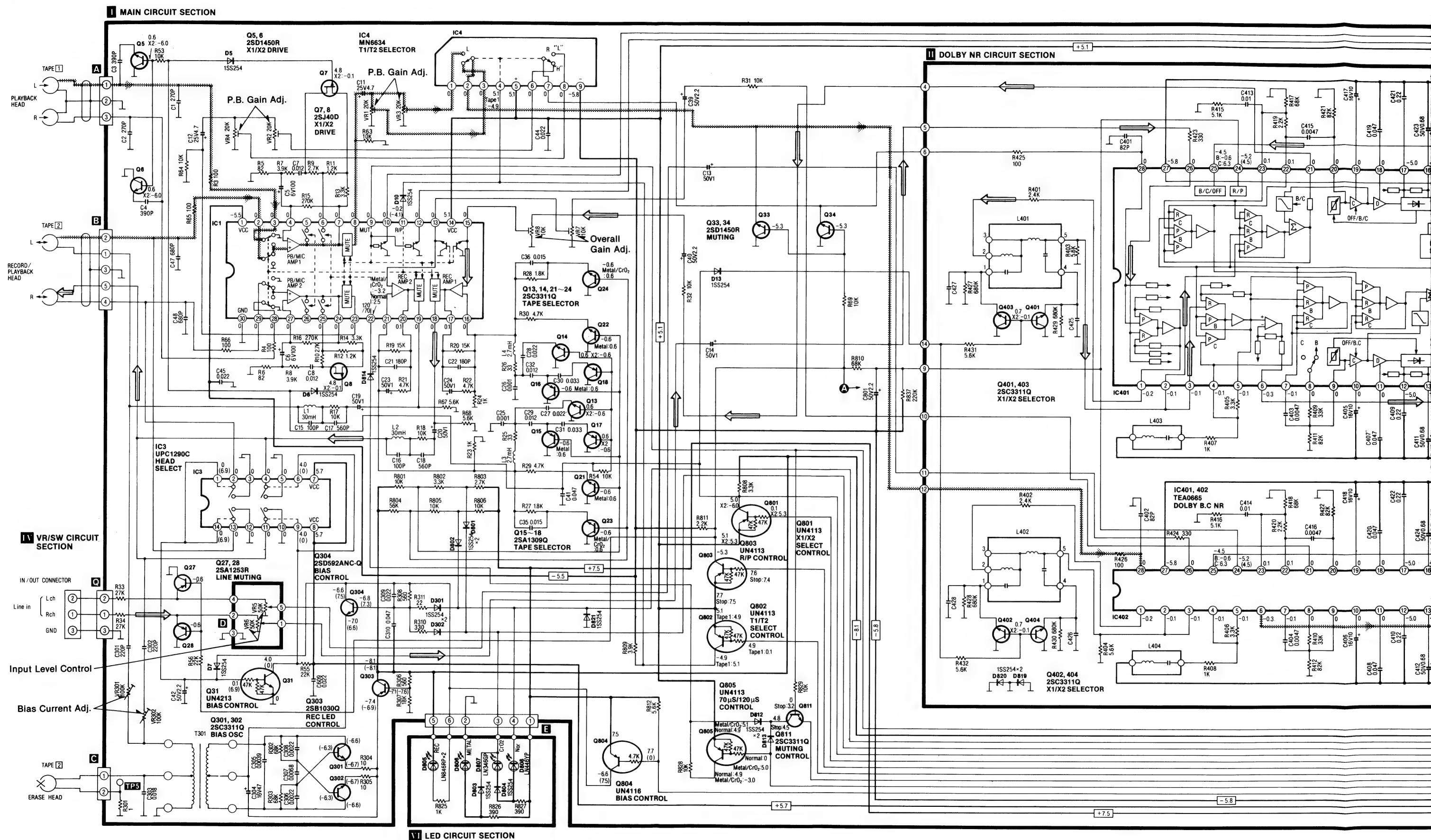
UN4213

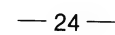
---

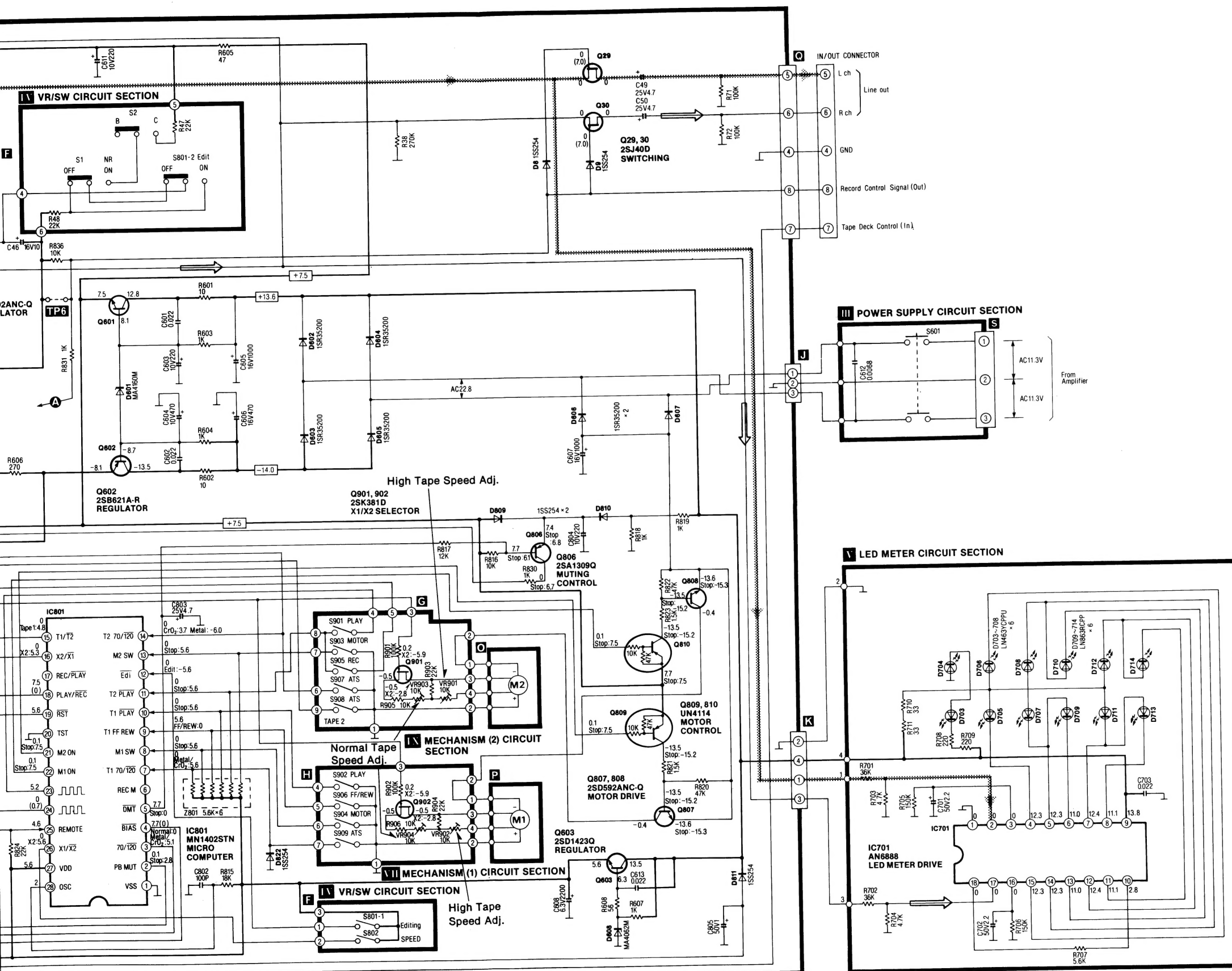
0 (RED)  
1 (GRN)  
2 (YEL)



**■ SCHEMATIC DIAGRAM** (This schematic diagram may be modified at any time with the development of new technology)







## Notes:

- S1 : Dolby NR switch in "out" position.
- S2 : Dolby NR switch in "B" position.
- S601 : Power switch in "off" position.
- S801 : Editing switch in "off" position.
- S802 : Editing tape speed select switch in "Normal" position.
- S901 : Tape 2 play switch in "off" position.
- S902 : Tape 1 play switch in "off" position.
- S903 : Tape 2 motor switch in "off" position.
- S904 : Tape 1 motor switch in "off" position.
- S905 : Tape 2 rec switch in "off" position.
- S906 : Tape 1 FF/REW switch in "off" position.
- S907 : Tape 2 Normal switch in "off" position.
- S908 : Tape 2 CrO<sub>2</sub> switch in "off" position.
- S909 : Tape 1 70μS switch in "off" position.

• Resistance are in ohms (Ω), 1/4 watt unless specified otherwise.

1K = 1,000(Ω), 1M = 1,000k(Ω)

• Capacity are in micro-farads (μF) unless specified otherwise.

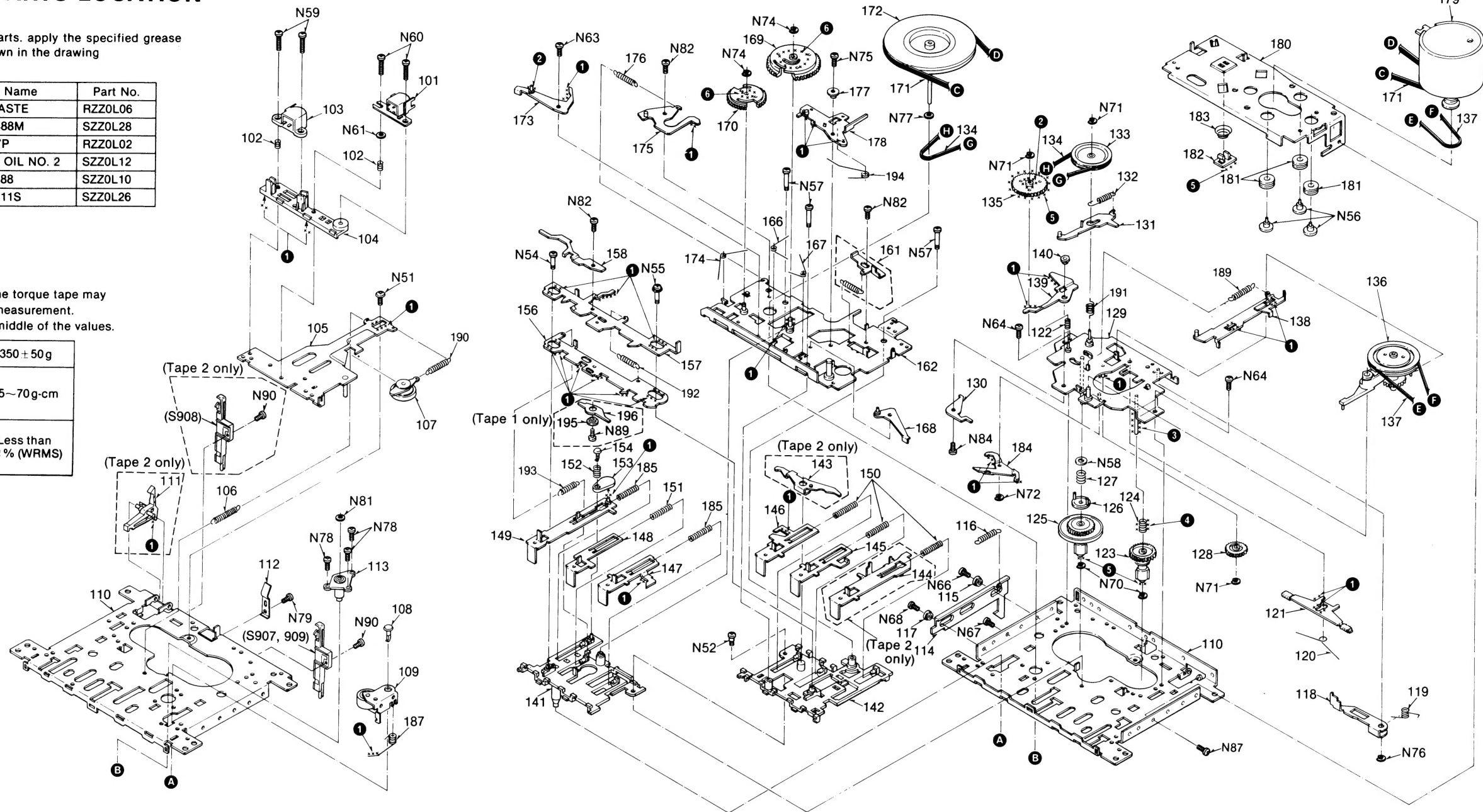
**NOTES:**

- When changing mechanism parts, apply the specified grease to the are marked "x x" shown in the drawing "Mechanical Parts Location".

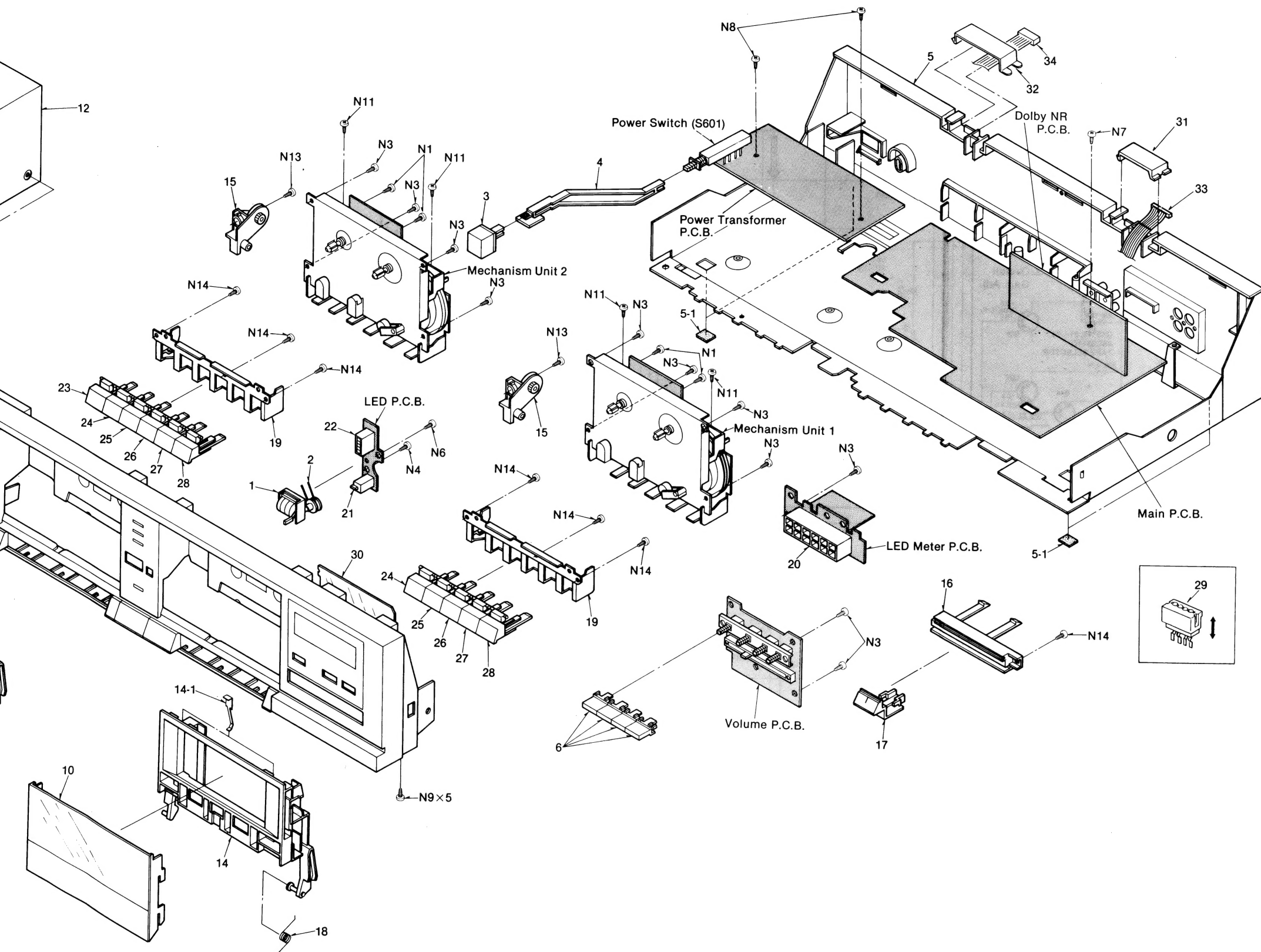
Ref. No.	Part Name	Part No.
❶	ROCOL PASTE	RZZ0L06
❷	FLOIL G-488M	SZZ0L28
❸	FLOIL 947P	RZZ0L02
❹	SILICONE OIL NO. 2	SZZ0L12
❺	FLOIL G-488	SZZ0L10
❻	FLOIL G-311S	SZZ0L26

**NOTE:** The value indicated by the torque tape may fluctuate during torque measurement.  
In that case, obtain the middle of the values.






Pressure of pressure roller	350 ± 50 g
Takeup tension * Use cassette torque meter ..... QZZSRKCT	35~70 g-cm
Wow and flutter; (JIS) * Use test tape ..... QZZCWAT	Less than 0.1% (WRMS)

[illegible]

F



- Notes:**
- Part numbers are indicated on most mechanical parts. Please use this part number for parts order.
  - The parenthesized numbers in the column of description stand for the quantity per set.

Ref. No.	Part No.	Description	
<b>CABINET and CHASSIS PARTS</b>			
1	SJN20	Tape Counter	(1)
2	SMQ20018	Tape Counter Belt	(1)
3	SBC666-3	Power Button	(1)
4	SUB255	Connection Rod	(1)
5	SKMST25-KP	Main Case Ass'y	(1)
( 5-1	( SKL293	Foot	(1)
6	SBC800	Button	(4)
10	SGE1790	Cassette Lid, Tape 1	(1)
11	SGE1791	Cassette Lid, Tape 2	(1)
12	SKA11740K99	Cabinet	(1)
13	SGYST25-KP	Front Panel Ass'y	(1)
14	SGXSD225W-KM	Cassette Holder Ass'y	(2)
( 14-1	( QBP2006A	Tape pressure Spring	(4)
15	SGXST25-KP	Damper Gear Ass'y	(2)
16	SGXST10-KE	Slide Guide Ass'y	(1)
17	SBD131	Knob, Volume	(1)
18	SUS797-1	Holder Spring	(2)
19	SMN2001	Bracket	(2)
20	LN121307P-1	L.E.D. Ass'y	(1)
21	LN018304P	L.E.D. Ass'y (D805)	(1)
22	LN031306P	L.E.D. Ass'y (D806-808)	(1)
23	SBC866	Button, Rec, Tape 2 only	(1)
24	SBC867	Button, PLAY	(2)
25	SBC868	Button, REW	(2)
26	SBC869	Button, FF	(2)
27	SBC870	Button, STOP	(2)
28	SBC871	Button, PAUSE	(2)
29	SJT30443-V	Socket, J 	(1)
29	SJT30543-V	Socket, J 	(1)
29	SJT30643-V	Socket, J 	(2)
29	SJT30743-V	Socket, J 	(1)
29	SJT30943-V	Socket, J 	(1)
30	SGX7847	Filter	(1)
31	SGX7835	Cover	(1)
32	SGX7836	Cover	(1)
33	SWKST25-KP	Cord	(1)
34	SWKST25-KP1	Cord	(1)
<b>SCREWS</b>			
N1	XTV3+8F	Tapping, $\pm 3 \times 8$	(4)
N3	XTV3+10JFR	Tapping, $\pm 3 \times 10$	(11)
N4	XTV26+8JFR	Tapping, $\pm 2.6 \times 8$	(1)
N6	XTV26+6J	Tapping, $\pm 2.6 \times 6$	(1)
N7	XTBS3+8JFZ1	Tapping, $\pm 3 \times 8$	(1)
N8	XTW3+12QFR	Tapping, $\pm 3 \times 12$	(2)
N9	XTB3+8J	Tapping, $\pm 3 \times 8$	(5)
N11	XTB3+6FFR	Tapping, $\pm 3 \times 6$	(4)
N12	SNE2125-1	Cabinet	(4)
N13	XTV3+12J	Tapping, $\pm 3 \times 12$	(2)
N14	XTV26+8J	Tapping, $\pm 2.6 \times 8$	(7)
<b>ACCESSORY</b>			
A1	SQF12801	Instruction Book	(1)
<b>PACKING PARTS</b>			
P1	SPG5745	Carton Box	(1)
P2	SPS4705	Pad, Left Side	(1)
P3	SPS4706	Pad, Right Side	(1)
P4	SPS4753	Pad, Center	(1)
P5	XZB50X65A02	Polyethylene Bag	(1)
P6	SPS4734	Pad	(1)